3. TRACING TB PATIENTS MISSING FOR TREATMENT

3.1 Tracing TB patients who do not come for starting treatment

It could happen that the patient's sputum is found positive by the laboratory but the patient does not come on the fixed date to collect his results.

In this case SHW will be requested to visit the patient at the given address.

- SHW has to meet the patient and explain the importance to start the TB treatment as soon as it is possible. A daily treatment will be provided at the health facility under direct supervision.

- SHW has to give health education messages to the patient as well as to his family.

- SHW has to inform the medical officer in charge of the health facility about the results of the visit.

3.2 Tracing TB patients who interrupted treatment

Sometimes, a patient may stop taking his drugs. This can happen when a patient does not understand that he needs to take all his drugs daily for the full duration of treatment.

If the patient miss his treatment on more than 2 consecutive days during the intensive phase of treatment, he must be traced immediately.

A patient who fails to turn up for his scheduled visit during the maintenance phase of the treatment, must be traced within a week of missing his appointment.

- SHW has to trace the patient who interrupted his treatment.

- SHW has to spend all his/her efforts to educate the patient on the importance of adhering to his treatment schedule.

- SHW has to try daily until the patient is retrieved.

The further management of these patients who interrupted the treatment depends on the type of patient, the amount of time the patient had treatment, the length of interruption, and whether he is smear-positive or smear-negative when he returns for treatment.

4. SUPERVISING HOME TREATMENT

The initial intensive phase for all TB patients is 2 to 3 months of fully supervised administration of medicines, ambulatory or during hospitalization (FIGURE 19).

The continuation phase of treatment is 5 to 6 months. During this phase the medicines are usually collected monthly by the patient and self-administered (FIGURE 20).

A TB Treatment Card TB 01 is filled as soon as the diagnosis of tuberculosis is made. It is kept at the health facility where the patient receives treatment. It contains important information on the patient and the administration of medicines.

Usually, a medical officer will decide which treatment regimen a patient should be prescribed. He will tick the appropriate box on the patient's TB Treatment Card indicating the prescribed regimen. He will then write the number of medicine tablets (and milligrams of streptomycin) to be given during the initial intensive phase and the continuation phase of treatment.

The months that the patient will be administered medicines during the intensive phase are written under the MONTH column in the drug collection table on the bottom front of the TB Treatment Card (FIGURE 32). The appropriate DAY (1-31) is marked by an "X" after the medicines are administered to a patient each day.

The months that the patient will be collecting his medicines during the continuation phase are written under the MONTH column in the table on the back of the TB Treatment Card (FIGURE 33). An "X" is entered on the DAY (1-31) the medicines were collected. A line is drawn through the remaining days of the month to indicate that a month supply of medicines was given.

Directly supervised treatment is usually done at the health facility. Only in exceptional cases, e.g. when a patient is weak to come daily to the health facility but not too sick to be hospitalized, directly supervised treatment can be done at home of the patient by the SHW.

- SHW has to collect the medicines from the health facility for that specific patient and for one week consumption.
- SHW has to give treatment to the patient every day at his home, directly supervising his intake.
- SHW will be provided of a copy of the TB Treatment Card. After the patient takes his medicines, SHW has to enter an "X" into the relevant day of the table on the bottom of the front side of the TB Treatment Card.
- SHW has to be sure that every week the patient's TB Treatment Card kept at the health facility is updated from his/her card copy.

5. PROVIDING HEALTH EDUCATION DURING FIRST CONTACT

During the first contact the patient should be told some essential information about the disease (FIGURE 25). He has to feel confortable enough to ask things he does not understand. The patient is probably very sick and might still be feeling distress about having the disease. Essential questions throughout the discussion should be asked to make sure the patient understands what is being said.

During his/her first contact with the patient, the SHW has to strengthen the following messages:

5.1 What is tuberculosis

To explain in simple terms what TB is and what type of TB the patient has (for example, TB of the lungs). Patient should be reassured that with the right treatment, TB is a curable disease.

5.2 Treatment of tuberculosis

To provide general information about the patient's treatment: length of treatment, where he will receive treatment

If the patient is sputum smear-positive, to explain the importance of having closely supervised treatment during the intensive phase of treatment. This means that the health worker administers the drugs to the patient and then makes sure he shallows all his drugs.

5.3 How tuberculosis is spread

To explain in simple terms that TB can spread when a patient sneezes, coughs, spits, talks or sings. People in close contacts with the patient can become infected when they breath in these TB germs (FIGURE 26).

To stress the importance of taking all family members exposed to the disease (contacts) that have symptoms of TB to the closest health unit for screening. In particular, children under age 6 should be screened because they are at risk of developing severe forms of the disease.

5.4 Looking for symptoms of tuberculosis

To describe the main symptoms of TB of the lungs to the patient so he can recognize whether a family member might be a TB suspect: cough which lasts for 3 or more weeks, fever and night sweats, tiredness, weight loss, chest pain, shortness of breath, loss of appetite, coughing up blood-stained sputum.

5.5 How to prevent tuberculosis

To explain how to prevent TB from spreading:

- To start the treatment as soon as possible. It is the best way to prevent the spread of the disease to others (FIGURE 27).

- To cover the mouth by hand when coughing and sneezing, to do not spit. As result less TB bacilli will be propelled out into the air and afterwards inhaled by other people (FIGURE 28).

- To keep the house rooms ventilated by opening windows and doors. Good ventilation decreases the number of the TB bacilli suspended in the air which could be inhaled (FIGURE 29).

- To lie sheets, carpets, etc. in the sun, let sun light to come in the house. The sun light contains ultraviolet light which kills the TB bacilli (FIGURE 30).

- To vaccinate children at birth with BCG. The BCG vaccination prevents the occurrence of serious TB forms during childhood (FIGURE 31).

6. PROVIDING HEALTH EDUCATION ON A CONTINUOUS BASIS

More health education topics should be discussed with the patient at least once a week during the intensive phase and once a month during the continuation phase.

When meeting the patient, the first few minutes should be spent in checking if he remembers what was previously discussed regarding health education. Essential questions throughout the discussion should be asked to make sure the patient understands what is being said.

During further contacts with the patient, the SHW has to strengthen the following messages:

6.1 Type and colour of prescribed medicines

To explain the different types of drugs the patient will be taking and the colours of the drugs, so the patient can identify whether he is being given the correct drugs.

6.2 Amount and frequency of medicines

To tell the patient how many tablets of each drug he will be taking, how often he will be taking them, and for how long.

6.3 Possible side effects of medicines

To explain the following common side effects of the anti-TB medicines he is taking:

- skin rashes
- skin and/or eyes turn yellow
- flu-like symptoms (fever and chills)
- pain and swelling of joints, particularly ankles and wrists
- difficulty with vision
- red/orange discoloration of the urine
- imbalance

To tell the patient that if he experiences any of these side effects, he should immediately go to health center.

6.4 Frequency and importance of sputum examinations

To explain to each pulmonary patient that he will be requested to spit into a container more other times during the treatment of TB.

To tell him that the sputum specimen will be examined in the laboratory. There is a special machine called microscope to see whether there are TB germs in the spit. TB germs cannot be seen by the naked eye. If TB germs are seen in the sputum, the

patient is still very sick. If not, the patient is getting better, but must continue to take the medicines.

6.5 What happens if a patient takes only some medicines

To tell the patient that he needs to take all of his prescribed medicines together to be cured (for example, he cannot just take isoniazid and rifampicin and throw the rest away).

To explain that during the continuation phase, the patient must also take all his drugs even though he might feel better because his disease is not yet cured.

To tell the patient if he does not take all his medicines, the germ might produce more germs again. After a while the germs are back in large numbers and the patient has become sick again.

6.6 What happens if a patient sells some medicines

To tell the patient that his medicines are worth more to him than money because the medicines can cure him.

To explain that without all his prescribed medicines, a patient cannot be cured.

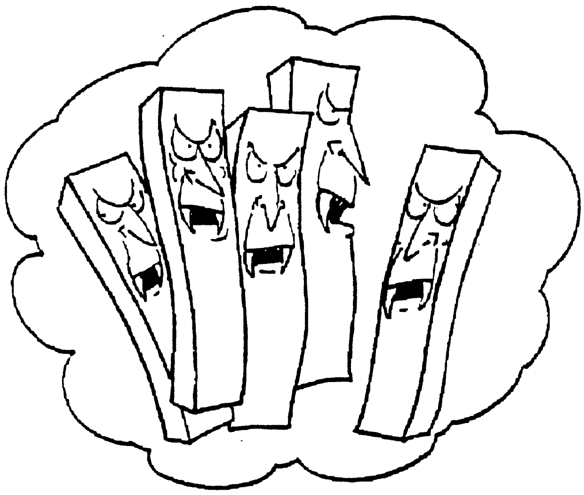


Figure 1: the germ of tuberculosis

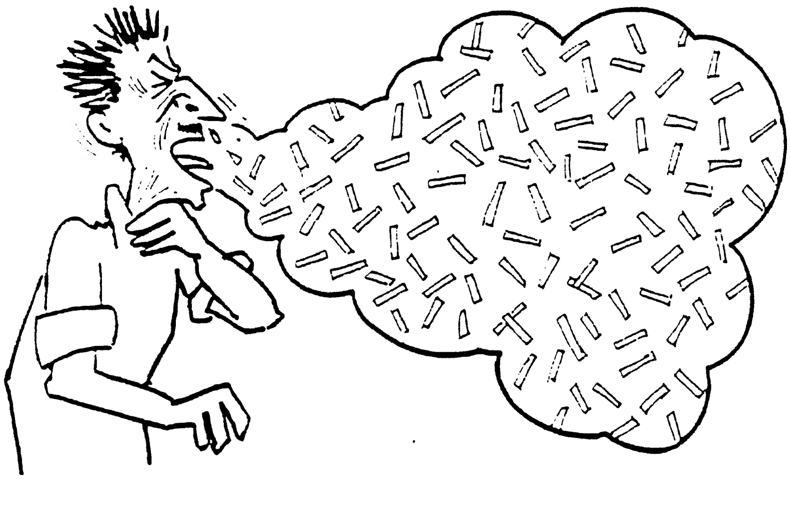


Figure 2: spreading TB by coughing

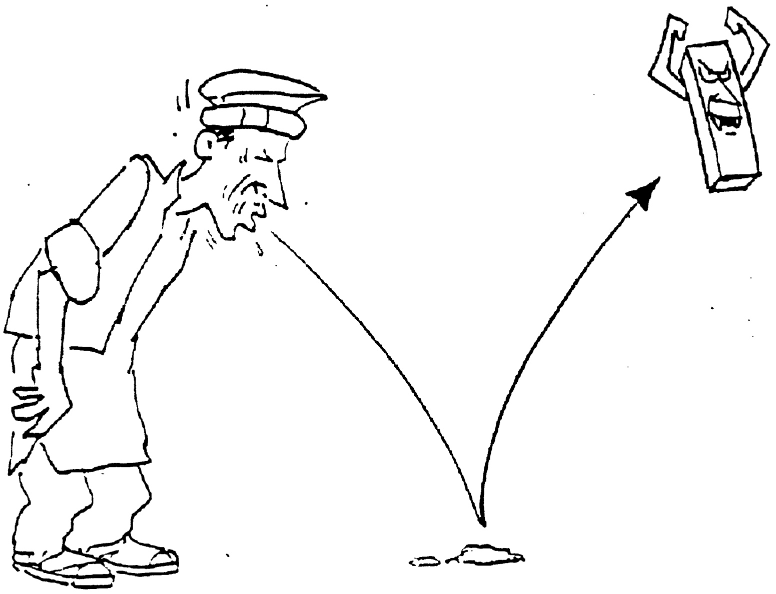


Figure 3: spreading TB by spiting



Figure 4: spreading TB by talking

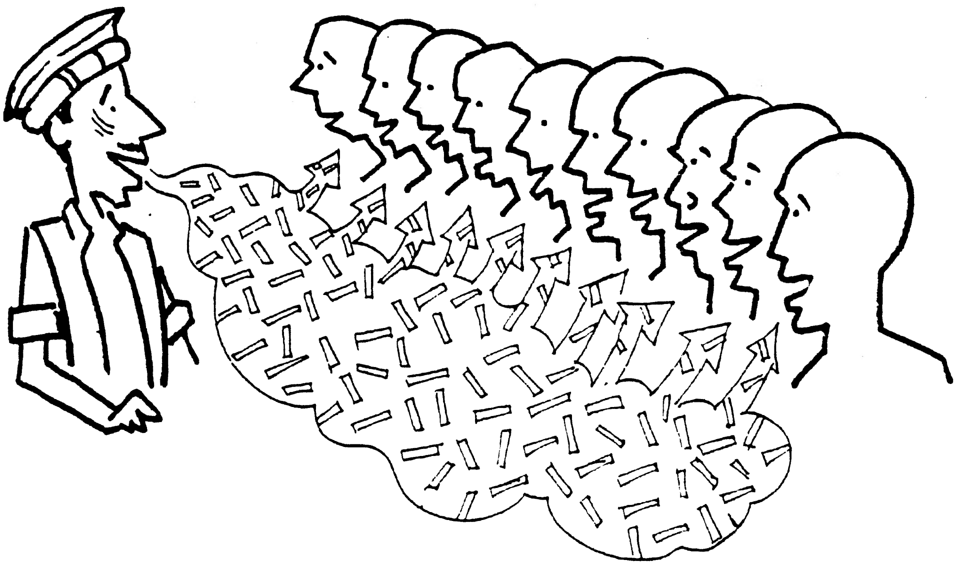


Figure 5: each infectious TB patient infects 10 people every year

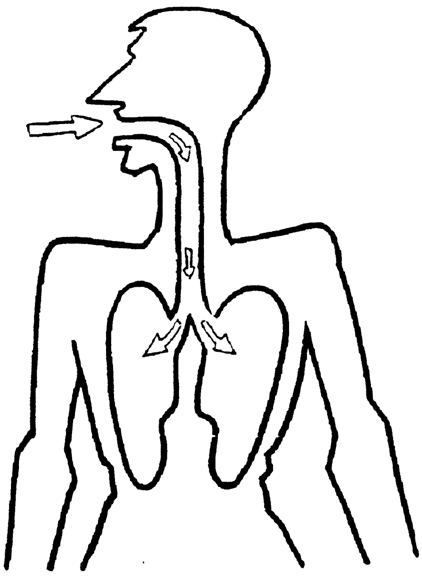


Figure 6: TB germ attacking the lungs

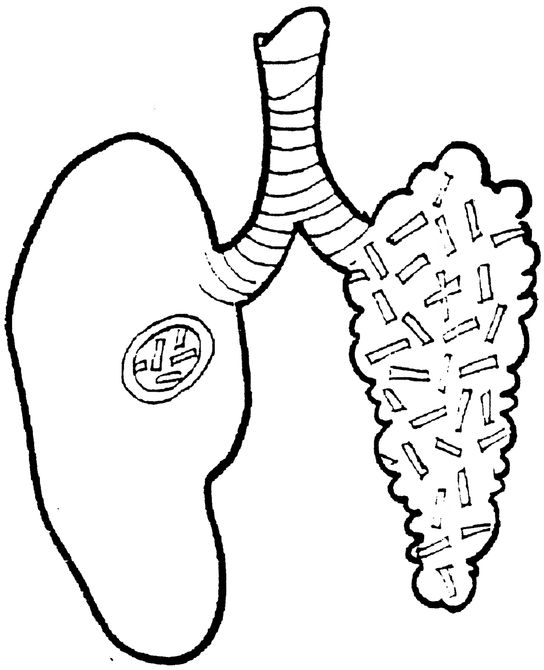


Figure 7: pulmonary TB

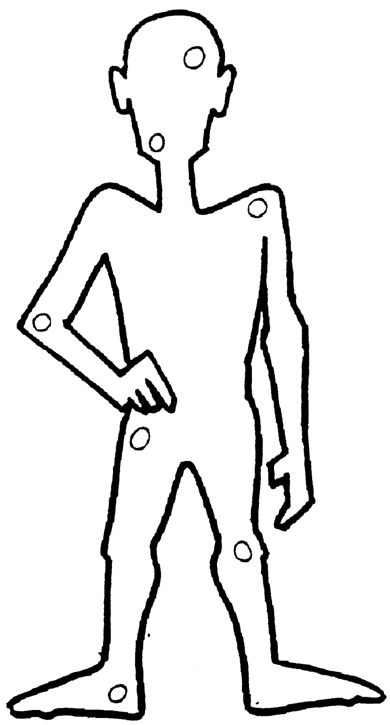


Figure 8: extra-pulmonary TB

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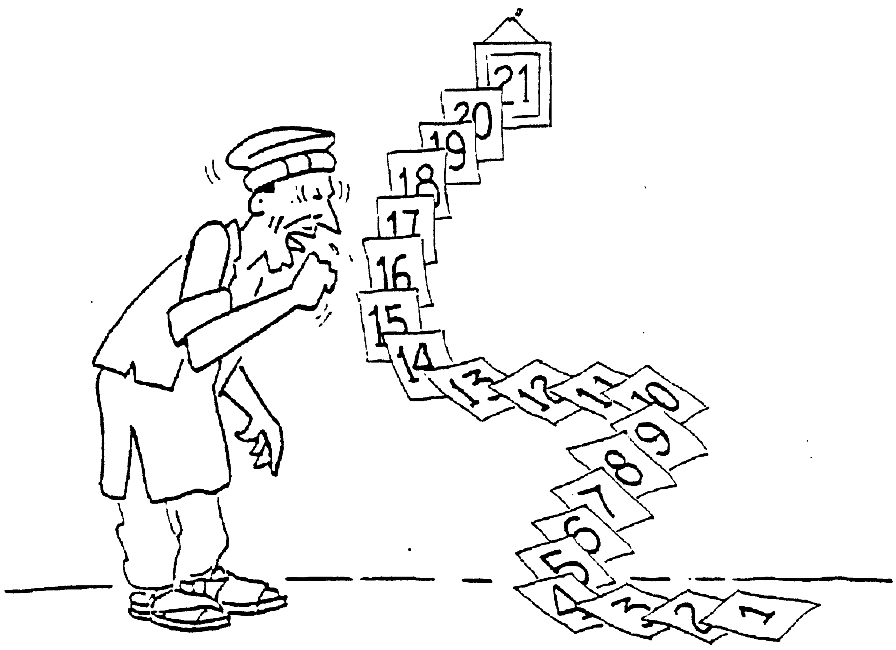


Figure 9: cough for 3 or more weeks

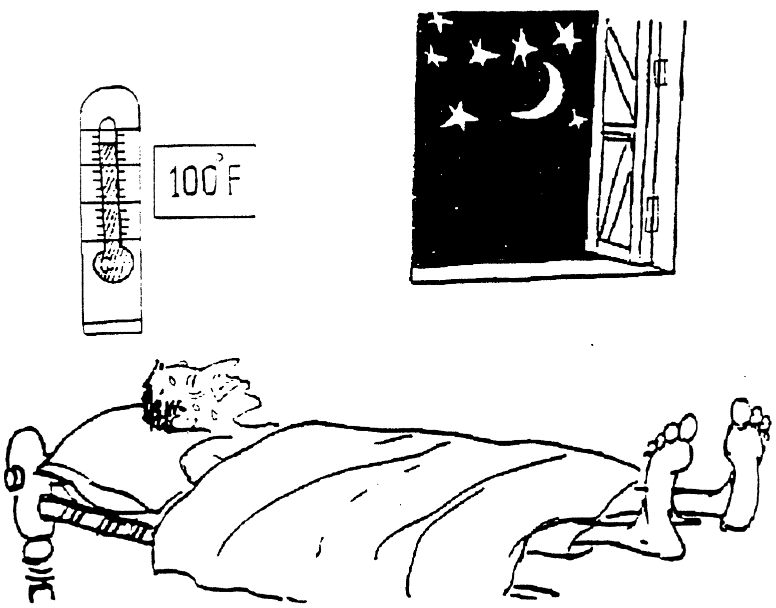


Figure 10: fever and night sweats

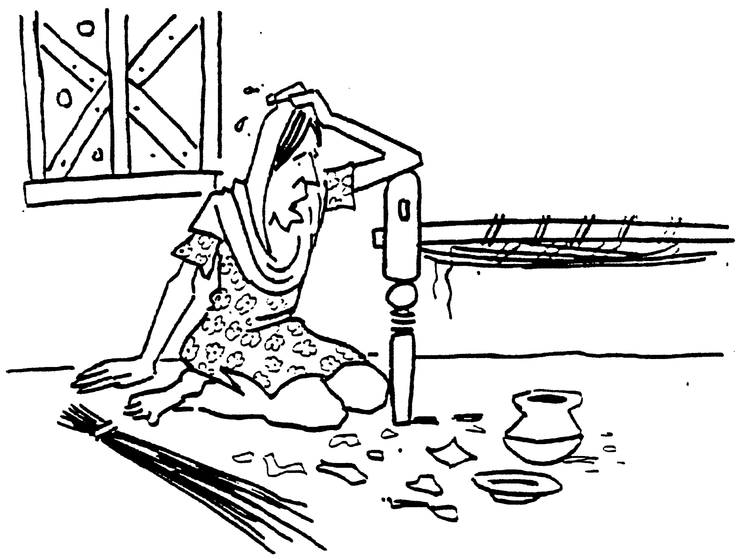


Figure 11: tiredness

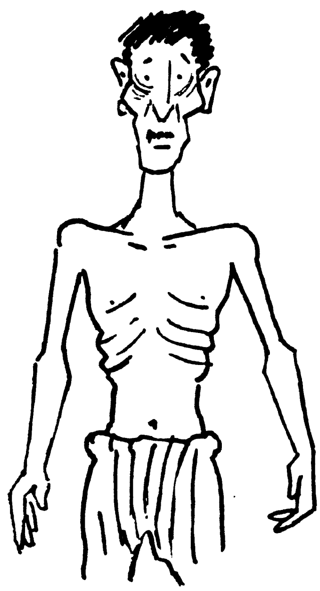


Figure 12: weigh loss



Figure 13: coughing up blood-stained sputum



Figure 14: medical examination



Figure 15; sputum collection



Figure 16: sputum smear examination

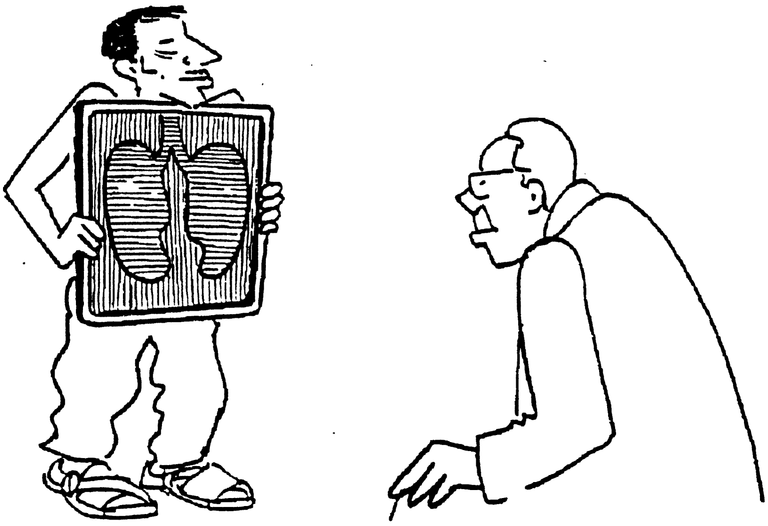


Figure 17: chest x-ray examination

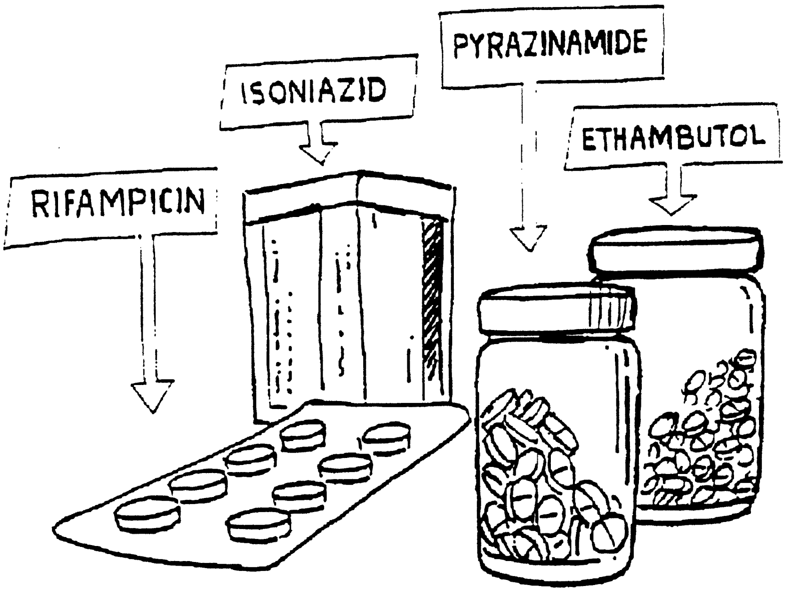


Figure 18: TB treatment with 4 drugs

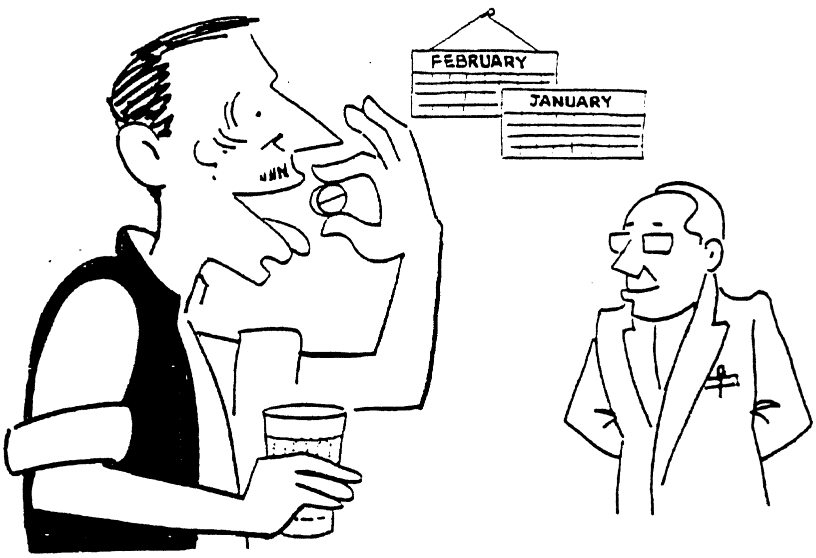


Figure 19: intensive phase of the TB treatment



Figure 20: maintenance phase of the TB treatment

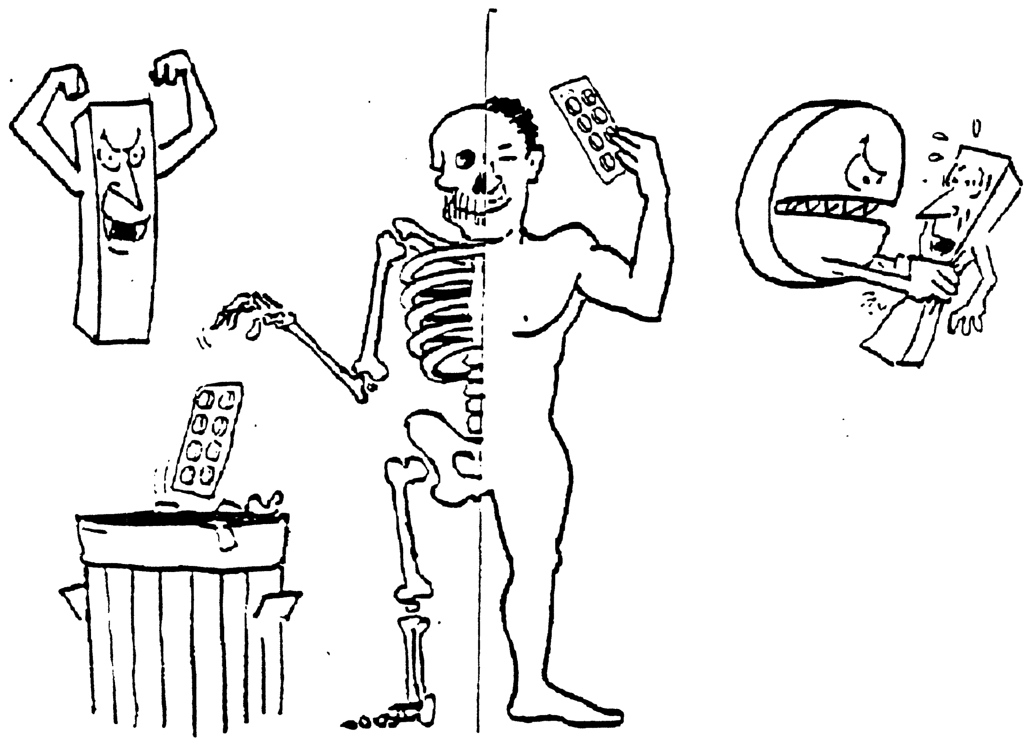


Figure 21: do not stop taking TB medicines



Figure 22: TB drug resistance

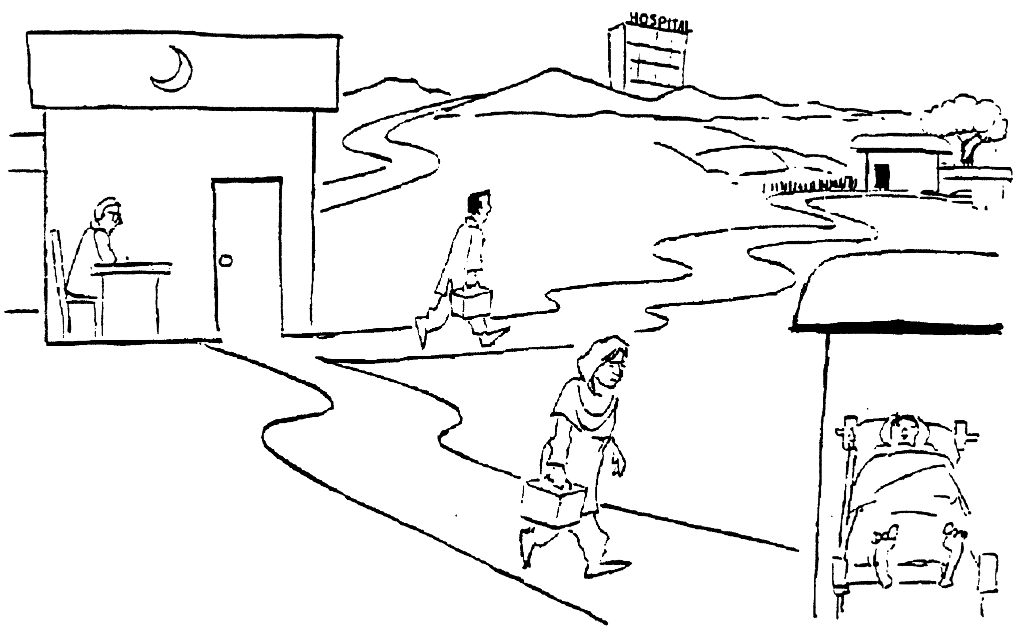


Figure 23: National TB Control Programme



Figure 24: check-up of the TB contacts



Figure 25: health education

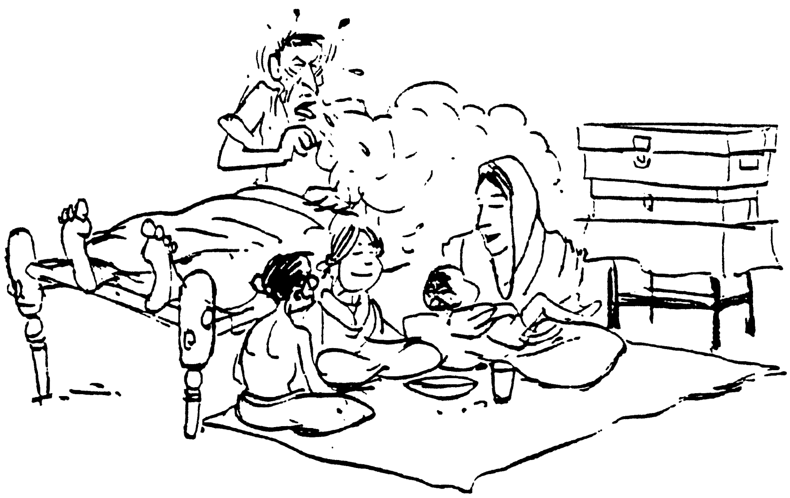


Figure 26: spreading TB among family members

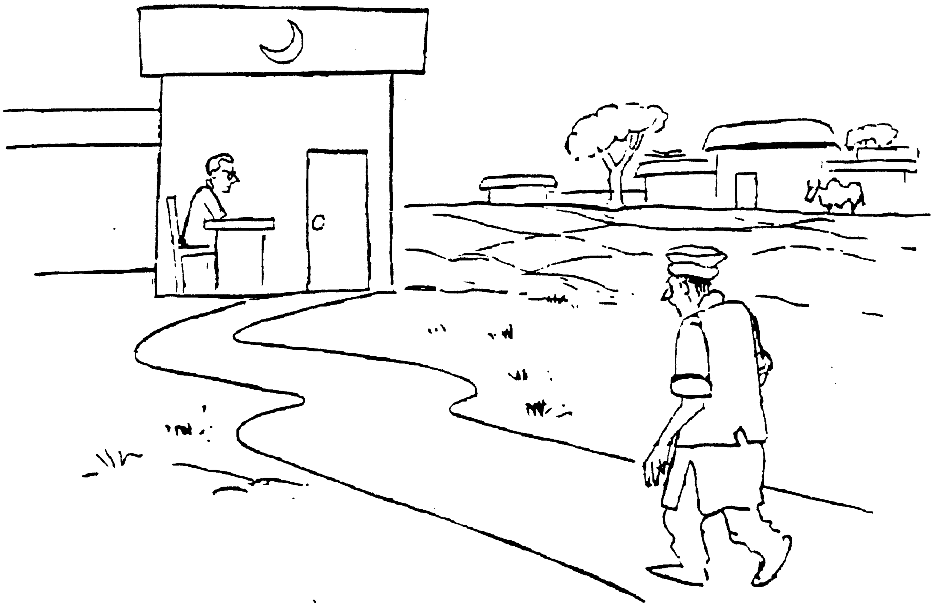


Figure 27: start TB treatment as soon as possible



Figure 28: cover the mouth when coughing

ANNEXES

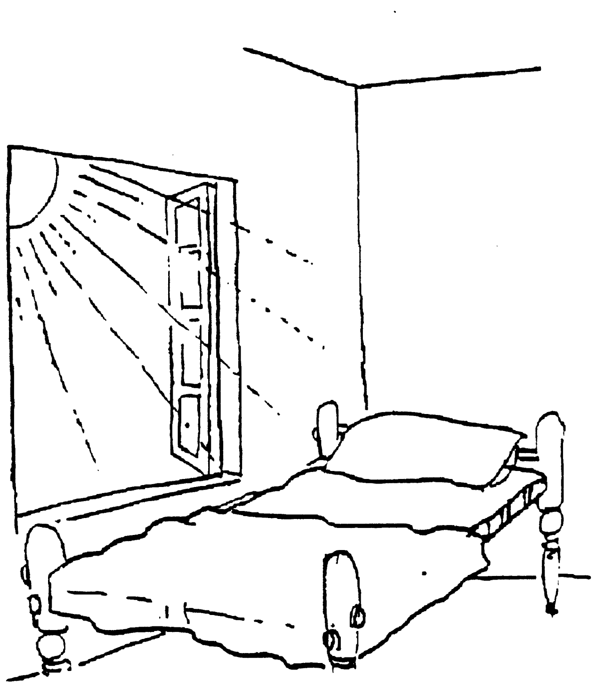


Figure 29: open windows and doors at home

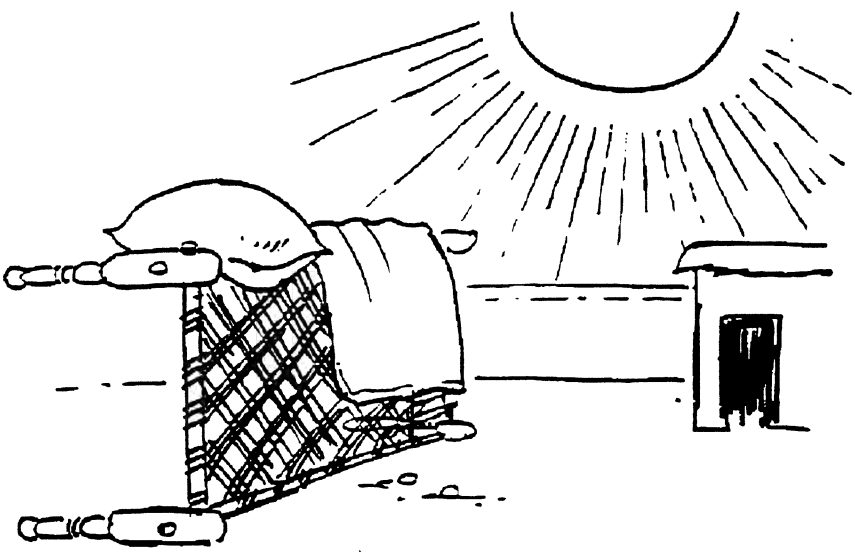


Figure 30: lie sheets, carpets, etc. in the sun light



Figure 31: BCG vaccination

PAKISTAN NATIONAL TUBERCULOSIS PROGRAMME

TB 01

TUBERCULOSIS TREATMENT CARD

Patient's Name: ____________ Father's/Husband's Name: ____________ District TB No.: ______ Year: ______

Address (in full): ____________ Treatment Unit: ____________

Name, Address and Relation of Contact Person: ____________

Age: ______ Sex M ☐ F ☐ ____________

Nationality: ____________ BCG: no scar ☐ scar seen ☐ scar dubious ☐

Disease Classification

Pulmonary ☐ Extra-Pulmonary ☐

Site: ______

Type of Patient

New ☐ Relapse ☐
Transfer In ☐ Other ☐
Treatm.After Default ☐ Specify: ______

I. INITIAL INTENSIVE PHASE

Tick the appropriate box and indicate daily number of tablets and dosage of S (grams):

CAT 1

New Case ☐
(smear-pos, seriously ill smear-neg or extra-pulm)

HR	Z	E (S)

CAT 2

Retreatment ☐

HR	Z	E	S

CAT 3

New Case ☐
(smear-neg, extra-pulm)

HR	Z

HR: isoniazid and rifampicin
Z: pyrazinamide
S: streptomycin
E: ethambutol
HT: isoniazid and thioacetazone

Results of Sputum Examination

Month	Weight (Kg)	Local Laboratory: Date	Local Laboratory: Lab No.	Local Laboratory: Smear Result	Reference Laboratory: Date	Reference Laboratory: Lab No.	Reference Laboratory: Cult. Result	Reference Laboratory: Sensit. Result Sens.	Reference Laboratory: Sensit. Result Res.
0									
2									
5									
8									

Enter X on day when drugs were administered under direct observation:

DAY / MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Please turn over for Continuation Phase

II. CONTINUATION PHASE

Indicate number of tablets per dose:

CAT 1 and 3

New Case
(smear-pos, smear-neg
or extra-pulm)

[ ] or [ ][ ] daily
HT H E (6 months)

CAT 2

Retreatment

[ ][ ] daily
HR E (5 months)

Enter X on day of supervised drug administration or when drugs are collected. Draw a horizontal line through the days to indicate the days supply given:

DAY / MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

REMARKS (results of X-Ray, tuberculin test, histology, chemotherapy of contacts, treatment results, etc.): ____________________

ABOUT THE COURSE

This course is designed to help District/Tehsil/Taluka Tuberculosis Coordinators to train social health workers (SHWs) on specific activities which they will perform in the community to support the National Tuberculosis Control Programme (NTP).

Trainees for this course could be selected by the TB Coordinator or by the medical officer in charge of the health facility which will be reference for the SHW.

SHW can be a primary health worker (e.g. village health worker, community health worker, EPI technician, CDC/malaria supervisor, sanitary inspector/rural health inspector, lady health visitor, etc.) or any other individual operating in a community (e.g. imam, school teacher, community leader, volunteer, etc.).

For volunteers it is required to live in the catchment area of the reference health facility, to do have individual unselfish commitment, to do not have any social-cultural constraint which could limit their activity (e.g. visiting TB patients at their home).

At least one male SHW and one female SHW should be selected for each 10,000 inhabitants.

As trainer, the TB Supervisor of the area should be preferred, to establish participants' acquaintance and build up personal relations which could be useful in future cooperation.

The training is by lectures, following the modules of this manual. Each participant will be provided with an abstract of this manual, translated into Urdu, to reinforce the learning. The course can be organized in a half day workshop (e.g. 09.00 - 13.00).

Checklist for planning and administrative arrangements

Careful planning and administrative support are essential before this orientation course.

Use this section as checklist of the necessary arrangements that you need to do in preparation for this course. When an item is completed, tick it on the above list.

<u>Initial planning:</u>

1. ___ Select the precise location for the workshop. Selection is based on reported availability of:
   - large room available during the workshop for seating all participants
   - adequate lighting and ventilation
   - freedom from distractions such as noises
   - sufficient number of chairs and tables
   - slide projector or light projector for transparencies

2. ___ Identify the trainees for the workshop.

3. ___ Select the day for the workshop.

4. ___ Meet the trainees before the workshop. During the meeting:
   - briefly describe the purpose and organization of the workshop
   - verify agreement and commitment of each individual
   - describe the location and day of the course
   - clearly state desired arrival and departure times for participants
   - describe arrangements for travel

5. ___ Make arrangements for obtaining and providing adequate numbers of copies of the course materials and necessary supplies (see checklist).

6. ___ Develop a course directory with names and addresses of all participants (to be distributed during the course) and make sufficient copies.

7. ___ Obtain sufficient workshop attendance certificates (to be filled out at the end of the workshop).

<u>At the workshop location, before the workshop begins:</u>

8. ___ Make arrangements for adequate room for conducting the workshop, such as:
   - large room available during the workshop for seating all participants
   - adequate lighting and ventilation
   - freedom from distractions such as noises
   - sufficient number of chairs
   - table for the trainer
   - additional table for the workshop materials
   - flipchart or blackboard or light projector for transparencies

9. ___ Make arrangements for meal and tea service.

10. ___ Organize workshop materials and supplies for distribution.

Checklist of supplies needed

Supplies needed for each participants:

- ball point pen
- note pad
- guidelines in Urdu

Supplies needed for classroom:

- slide projector
  or
  light projector for transparencies
- set of slides or transparencies (which produce the figures annexed)
- sputum container
- samples of anti-TB drugs used by the Programme

Training technique

Training is by lecture and discussion with the participants. Cartoons are also used to accompany the lecture (see annexes).

- State the objectives of the workshop.
- List the tasks expected from the SHWs.
- Present modules conversationally rather than read it. Move around the room and use natural hand gestures. Speak clearly. Vary the pace and pitch of your voice.
- Encourage participants to ask you questions whenever they would like.
- Ask questions to participants frequently to check their understanding and keep them actively thinking and participating.
- Look for how in practice the participants can accomplish their tasks in the field.
- Get most of the participants involved in the discussion.

1. INTRODUCTION TO TUBERCULOSIS

1.1 What is tuberculosis ?

Tuberculosis (TB) is a disease caused by infection with Mycobacterium tuberculosis (FIGURE 1).

TB usually attacks the lungs but it can affect any other organ of the body.

1.2 How is tuberculosis spread?

TB is spread by people. Like the common cold, TB is spread through the air. Only people who are sick with TB of the lungs can spread the disease.

When these people:

- cough (FIGURE 2)
- sneeze
- spit (FIGURE 3)
- talk (FIGURE 4) or sing

.. the TB germs inside their lungs are propelled out into the air where they can remain suspended for hours. They are afterwards inhaled by healthy people who can fall sick in their turn.

Each infectious patient with TB of the lungs, when uncured, infects approximately 10 other people every year (FIGURE 5).

1.3 Forms of tuberculosis

TB usually attacks the lungs (FIGURE 6), causing a condition known as Pulmonary TB (FIGURE 7).

Cases of Pulmonary TB are further subdivided into sputum smear-positive and sputum smear-negative according to the presence or not of TB germs in the sputum examined by microscope.

TB can also affect:

- the spine
- the hips
- the lymph nodes
- virtually any other part of the body

In these cases the condition is called Extra-pulmonary TB (FIGURE 8).

1.4 Diagnosis of tuberculosis

Symptoms of TB sickness include:

- cough lasting for 3 or more weeks (FIGURE 9)

and one or more of the following symptoms:

- fever and night sweats (FIGURE 10)
- tiredness (FIGURE 11)
- weight loss (FIGURE 12)
- chest pain
- shortness of breath
- loss of appetite
- coughing up blood-stained sputum (FIGURE 13)

The patient complaining of the above symptoms should be seen by the doctor, who will perform his physical examination (FIGURE 14).

When pulmonary TB is suspected, at least 3 sputum specimens, the mucus in his spit after coughing (FIGURE 15), should be collected and examined in the laboratory. There is a special machine called microscope to see whether there are TB germs in the spit. TB germs cannot be seen by the naked eye (FIGURE 16).

If this test is not conclusive, his chest may be x-rayed (FIGURE 17) to determine whether are any small holes, fluid or shadows in the lungs which may indicate TB.

1.5 Treatment of tuberculosis

When a patient is sick with TB, he will be asked to take together 4 different medicines (FIGURE 18). Usually, these medicines are tablets of rifampicin, isoniazid, pyrazinamide and ethambutol. In some instances, injections of streptomycin are given instead of ethambutol.

The patient usually does not need to be hospitalized. Rather, the health worker arranges a time to observe the patient taking every day his medicines so there is no chance of forgetting. This strategy for curing TB is known as DOT or Directly Observed Treatment (FIGURE 19).

After 2 months of this treatment (called the intensive phase of the treatment), the sputum is tested again. If good progress, fewer pills are prescribed daily for the remaining 6 months (called the maintenance phase of the treatment) and they can be collected from the health unit as monthly supply (FIGURE 20).

If the patient takes all his medicines as prescribed, he will have better than a 95% chance of being cured. It is very important that he takes all TB medicines regularly. Even though he will start feeling better and the symptoms will go away after a few weeks, taking the medicines must not be stopped (FIGURE 21).

If treatment is stopped many of the TB germs will still be alive and hiding in remote parts of the lungs. These survivors will be the strongest and most dangerous of the germs.

The patient will most likely get sick again, only this time the medicines used before may not work (FIGURE 22).

Also, he is likely to spread this stronger and less-curable form of TB, known as drug resistant TB, to family members, co-workers and friends.

1.6 National TB Control Programme in Pakistan

TB can only be successfully controlled and eventually eliminated in the context of a National TB Control Programme (NTP).

In the NTP, diagnosis and treatment of TB is carried out in the health centers and hospitals by medical officers and paramedical workers. They work in close cooperation with government authorities at Federal, Provincial and District level. SHWs are also called to support the staff working in the health facilities (FIGURE 23).

The specific tasks for the SHWs are the following:

1) Tracing TB contacts
2) Tracing TB patients missing for treatment
3) Supervising home treatment
4) Providing health education

One catchment area will be assigned to each SHW by the medical officer of the reference health facility. Close cooperation is required between SHW and the concerned staff of the health facility, which should be visited by the SHW at least ones a week.

2. TRACING TB CONTACTS

TB affects the lungs in more than 80% of cases. Pulmonary TB in adults is often sputum smear-positive and therefore highly infectious. To limit the destruction of the patient's lungs caused by TB to a minimum and to contain the transmission to other people, TB suspects must be properly examined as early as possible.

When pulmonary TB is suspected, at least 3 sputum specimens should be collected and examined by microscopy. The specimens should be collected during 2 days and sent to the laboratory within 1 week. When a patient is very sick, he should be sent to the hospital.

Once patient's sputum is collected, the patient can go home. He is asked to come back on a fixed date to collect his results.

After the sputum specimens are examined, the results of the examination are returned to the health facility that requested the examination. Once the suspect has been identified with Pulmonary TB Smear-Positive, he should be asked to take anyone who has been in close contact with him to the health facility for examination.

The close contacts of a Pulmonary TB Smear-Positive are at greatest of getting the disease. They are usually family members, friends, fellow employees and those spending time with the TB patient in poorly ventilated areas (FIGURE 24).

Close contact children can frequently catch TB. Some children may develop a very serious disease and may die if they are not diagnosed and treated. All children below 6 years should be screened for symptoms. Children under 1 year of age, whose mothers are pulmonary TB smear-positive, should receive 6 months of isoniazid preventive treatment. Breastfeeding should continue.

In case contacts do not come to the health facility, the medical officer in charge will request the SHW to visit the patient at the given address.

- SHW has to meet the patient and explain better the importance of having all his close contacts investigated.

- SHW has to see the contacts and provide of health education messages which could convinced them to come to the health facility for examination.

- SHW has to agree on a day which is confortable for the contacts and when the check-up at the health facility could be properly organized.

- SHW has to inform the medical officer at the health facility about the expected day of visit.

ORIENTATION COURSE ON TUBERCULOSIS FOR SOCIAL HEALTH WORKERS

GUIDELINES FOR TRAINERS

2nd edition (August 1995)

by Dr. Pierpaolo de Colombani (*) and Dr. Mohammad Iqbal Safi (**)

Cartoons by Mr. Zahoor, specially for Italian Cooperation for Development

Based on: *Managing Tuberculosis at District Level: a Training Course*, WHO (1993)
National Guidelines for Tuberculosis Control in Pakistan, MOH (1995)

TB Control Programme in NWFP (Pakistan)

* **Italian Cooperation for Development**
** **Government of NWFP - Health Department**

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by Dr. Pierpaolo de Colombani (*) and Dr. Mohammad Iqbal Safi (**)

Cartoons by Mr. Zahoor, specially for Italian Cooperation for Development

Based on: *Managing Tuberculosis at District Level: a Training Course*, WHO (1993)
National Guidelines for Tuberculosis Control in Pakistan, MOH (1995)

TB Control Programme in NWFP (Pakistan)

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